

TT3979

ABSTRACT OF THE DISCLOSURE

Various embodiments of a semiconductor-on-insulator substrate incorporating a Peltier effect heat transfer device and methods of fabricating the same are provided. In one aspect, a circuit device is provided that includes an insulating substrate, a semiconductor structure positioned on the insulating substrate and a Peltier effect heat transfer device coupled to the insulating substrate to transfer heat between the semiconductor structure and the insulating substrate.